SHURE®
222 HARTREY AVE., EVANSTON, IL. 60204 U.S.A.
MICROPHONES AND ELECTRONIC COMPONENTS
AREA CODE 312/866-2200 • CABLE: SHUREMICRO
TWX: 910-231-0048 TELEX: 72-4381

DATA SHEET

MODEL SR102 AND SR103 SPEAKER COLUMNS

OPERATION AND SERVICE INSTRUCTIONS

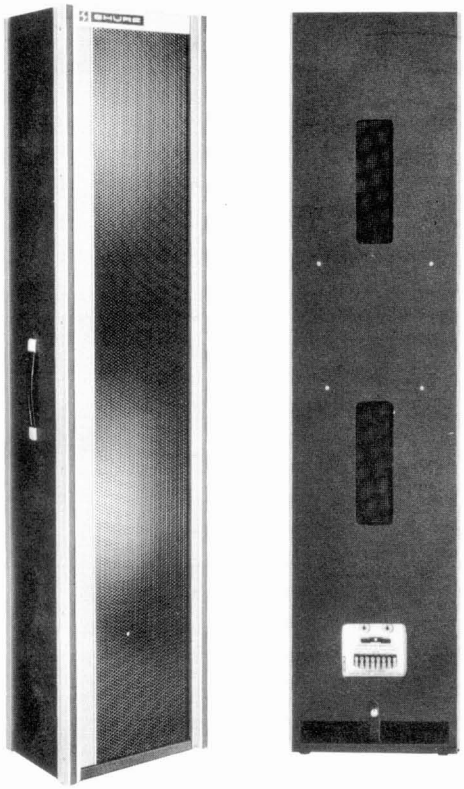

FIGURE A. SR102 SPEAKER COLUMN

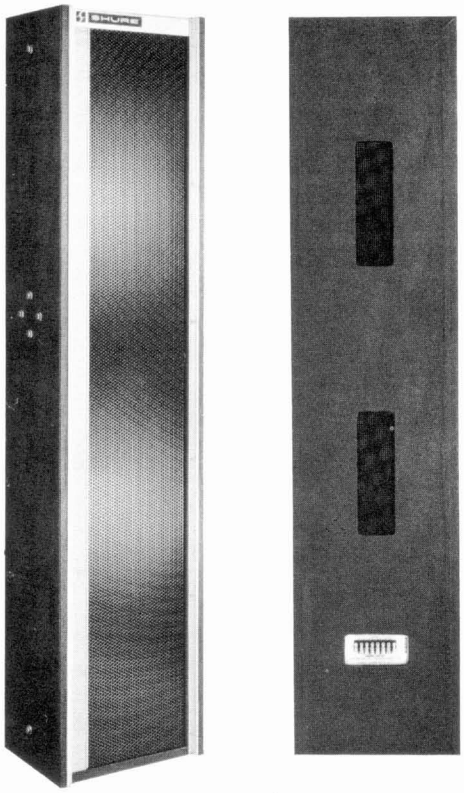

FIGURE B. SR103 SPEAKER COLUMN

DESCRIPTION

The Shure Model SR102 and SR103 Speaker Columns are speaker systems designed for use with Shure Model SR105 or similar high-power amplifiers in sound reinforcement applications. When properly installed and connected, the SR102 and SR103 Columns will provide outstanding performance. Their wide frequency range, distortion-free reproduction and high sound penetration power make them a valuable asset to any sound reinforcement system. The Columns may be used with either direct (4- to 16-ohm) or constant-voltage 25- or 70-volt amplifier outputs.

Quality sound reproduction is achieved through the use of two 10-inch and four 8-inch heavy-duty speakers, plus two high-frequency speakers which combine the functions of dome radiators and acoustic horn radiators. The tuned-rear-port enclosure design contributes to the highly directional pattern, which is critical in achieving maximum audience penetration and feedback reduction. The inductive-capacitive dividing networks maintain frequency-selective distribution of signals to the proper speakers.

The **SR102 Column** is a portable unit (see Figure A), and is primarily designed for temporary installation either indoors or in a protected outdoor environment, such as under an open pavilion. The Column may be operated vertically on its own feet, or in a tilted position using an optional easel-type tubular stand (Shure A3S-T). The SR102 Column is supplied with a 15m (50-foot), 18-gauge, rubber-jacketed connecting cable with locking phone plugs. The lower rear section of the Column contains a cable storage compartment. The SR102 Column is covered with a tough vinyl surface, front and rear metal grilles are finished in durable black enamel, and trim is anodized to minimize visible wear. A retractile handle and balanced design contribute to ease of transporting.

The **SR103 Column** (see Figure B) is a weather-resistant unit, and is primarily designed for permanent installation either indoors or in a protected outdoor environment such as under the roof of an open pavilion. Electrical components, hardware and enclosure surfaces have been designed to maximize resistance to adverse weather, with drain holes provided to minimize moisture accumulation. Adhesives used in the SR103 Column are moisture-resistant and trim and fastening hardware have a high corrosion resistance.

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SPECIFICATIONS

	SR102	SR103
Power Rating (Program Material)	100 watts max. (40-volt input, 16 ohms or 80-volt input, 64 ohms)	
Power Load for Constant-Voltage Operation	39 watts (25-volt input, 16 ohms) 78 watts (70.7-volt operation, 64 ohms)	
Impedance	16 ohms nominal (25-volt strapping) 64 ohms nominal (70.7-volt strapping)	
Frequency Response	100 Hz - 15 kHz (See Frequency Response, Figure C)	
Crossover Frequency	5 kHz	
Sound Pressure Level (SPL)	EIA rating: 53 dB at 9.2m (30 ft) from 1 milliwatt; equivalent to 101 dB at 1.2m (4 ft) with 1-watt input.	
Phasing (Polarity)	Positive voltage on plus (+) terminal or phone jack tip (SR102 only) produces positive sound pressure.	
Horizontal Distribution	140° (See Polar Response, Figure D)	
Vertical Distribution	65°	
Environmental Resistance:		
Operating Temperature	–6.7° to 43°C (20° to 110°F)	
Storage Temperature	–29° to 71°C (–20° to 160°F)	
Humidity	Normal indoor/outdoor	Moisture-resistant
Connectors	One 6-screw terminal strip; two parallel-wired phone jacks	One 6-screw terminal strip
Mounting Hardware Supplied	None	5/16-18 x 1½" screws
Overall Dimensions (See Figures E and F)	1522 mm height (incl. feet) × 354 mm width × 241 mm depth (59-15/16 in. × 13-15/16 in. × 9½ in.)	1513 mm height × 352 mm width × 240 mm depth (59-9/16 in. × 13⅞ in. × 9-7/16 in.)
Weight	32.62 kg (72 lb) incl. cable	31.8 kg (70 lb)
Construction	19 mm (¾ in.) wood, black vinyl covering, black metal grilles, anodized aluminum trim strips.	19 mm (¾ in.) wood, black vinyl covering, black metal grilles, anodized aluminum trim strips. All surfaces (internal and external) and all components treated for weather resistance.

SPECIFICATIONS (CONT'D)

	SR102	SR103
Supplied Accessories	One 15m (50-foot) heavy-duty cable with locking phone plugs	—
Optional Accessories	A102A 70-Volt Transformer A3S-T Speaker Tilt Stand* A50XC 15m (50-foot) Extension Cable with male and female phone plugs	A102A 70-Volt Transformer A103A Wall Mount Speaker Column Bracket

* Do **not** use Shure A3S-S Tilt Stand; this stand will not fit the SR102 Column.

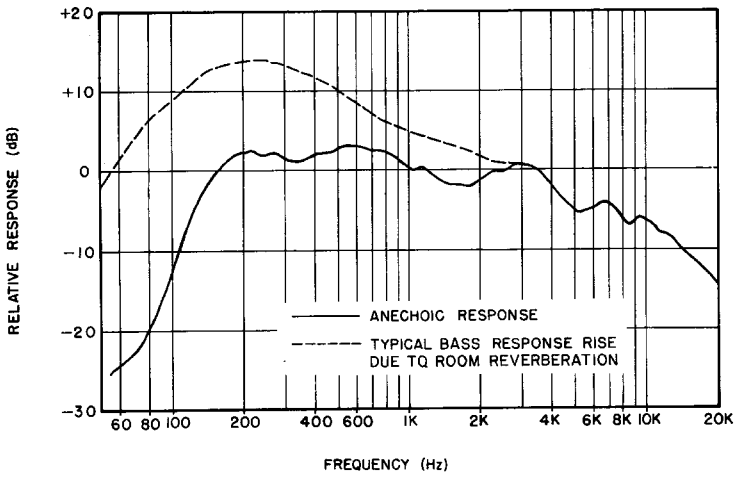


FIGURE C. TYPICAL FREQUENCY RESPONSE

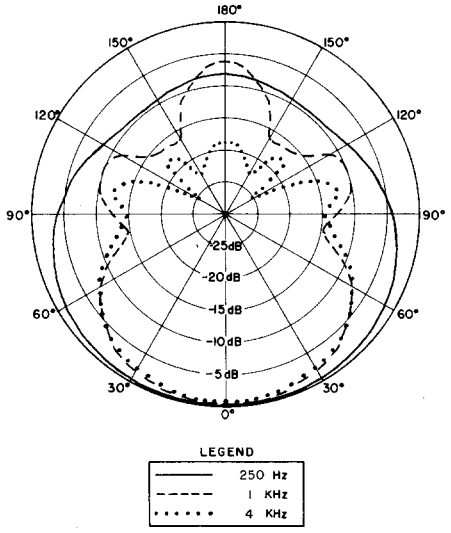


FIGURE D. TYPICAL POLAR RESPONSE

INSTALLATION

General

In planning a sound system using the SR102 or SR103 Columns, care must be taken to observe the horizontal (140°) and vertical (65°) sound distribution of the Columns. Maximum coverage for source-oriented installations is generally obtained with Columns on each side of the sound source and as far forward as possible, with each Column tilted slightly either downward (for wall- or ceiling-mounted Columns) or upward (for free-standing Columns). The angle of tilt (assuming a single Column to either side of the sound source) should be such that an imaginary line from the center axis of the Column runs to the back row of the audience area. The SR102 Column is designed to accept the Shure A3S-T tilt stand, which provides a maximum tilt angle of 30 degrees. For "clustered" Column installations covering a wide area, each Column should be positioned so that its angle of coverage coincides with that of the Column next to it as their sound output enters the audience area.

When used for distributed-speaker systems, the Columns are generally mounted at equidistant intervals over the area to be covered. Wall- or ceiling-mounting is usually employed, although free-standing Columns raised several feet or more from the floor are used quite satisfactorily.

The problem of audience penetration may be likened to illuminating a dark area with a floodlight: the object is to provide maximum area coverage (audience) with the available floodlights (columns). At the same time, care must be taken to avoid illuminating reflective surfaces. A blinding reflection (reverberation or echoes) may be more of a problem than inadequate coverage of the desired area.

Of the remaining common sound installation problems, acoustic feedback can usually be dealt with by judicious Column/microphone placement, and/or the use of feedback filters on the audio console. Background noise or acoustic absorption conditions generally require a greater volume level to maintain the proper audio level. However, it must be remembered that excessive volume may be intolerable to that part of the audience nearest the Columns. In this case, or in those cases where the architectural design leaves audience areas that are not reached by the Columns, the use of secondary or auxiliary speaker systems should be considered. If these are used, the coincident considerations of delay and phasing must also be faced.

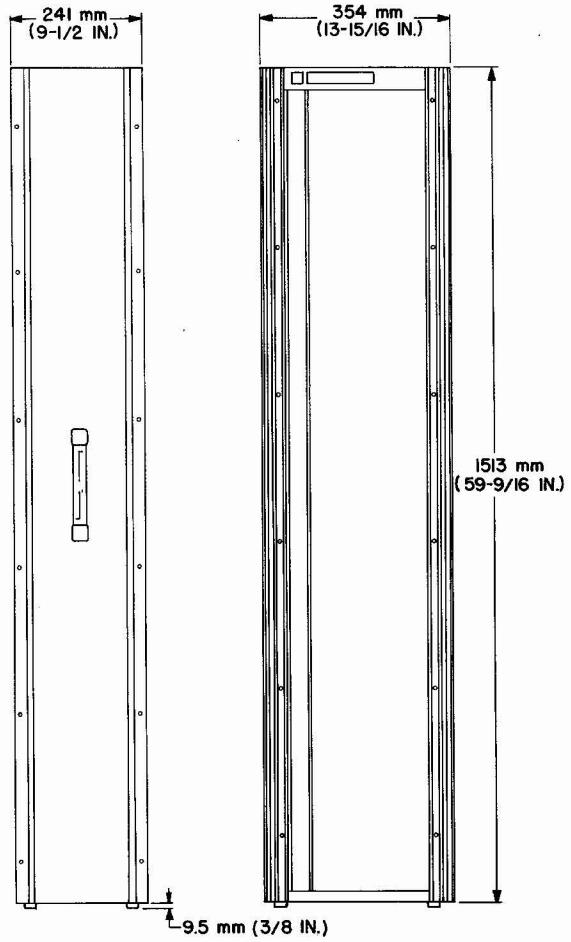


FIGURE E. SR102 COLUMN OVERALL DIMENSIONS

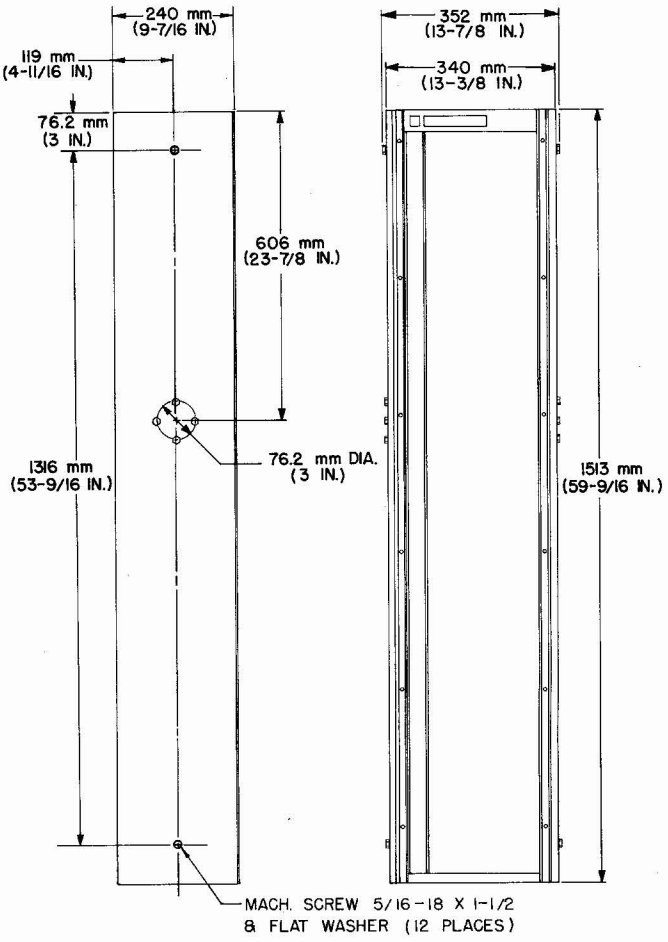


FIGURE F. SR103 COLUMN OVERALL DIMENSIONS

Direct Output Strapping

To connect the SR102 or SR103 Columns for use with direct (4- to 16-ohm) amplifier outputs or standard constant-voltage, 25-volt lines, proceed as follows. The SR102 Column rear panel contains a terminal strip with six terminals (numbering, from left to right: −, 4, 3, 2, 1, +) and two parallel-wired phone jacks (see Figure G). The phone jacks are wired to correspond with the strapping of the terminal strip. Positive and negative inputs are located at either end terminal as marked. Note that the SR103 Column rear panel is identical except that it does not have phone jacks.

Make sure the two straps connecting terminal 1 to terminal 2 and terminal 3 to terminal 4 are in place. This provides a total Column impedance of 16 ohms (parallel internal wiring) with a power rating of 100 watts when operated from a 40-volt amplifier output. When connected to a constant-voltage, 25-volt line without a transformer, the Column will draw 39 watts.

The Column may also be connected in a "split" configuration, either to provide redundancy—in case of amplifier or speaker failure, the total Column output will not be lost—or to provide for separate inputs from different sources, for instance, from both paging and background music systems. This is accomplished by removing the strapping between terminals 2 and 3, and connecting one input to the plus (+) and 3 terminals, and the other input to the minus (—) and 2 terminals (see Figure G). The impedance for each half of the Column with this configuration is 32 ohms, and the power rating is 50 watts. When connected to a 25-volt line (without a transformer), the power drawn by each half of the Column is 20 watts.

The Columns are designed to accept program material resulting in power peaks up to 100 watts on a continuous basis. However, sine-wave signals delivering 100 watts to a Column should be avoided in that they present a much greater *average* power than does program material. Consequently, when setting up or adjusting a sound system with these Columns, avoid the use of high-level, continuous-type test signals.

To insure safe operation of the Columns with program material inputs, do not connect them to an amplifier with an output capability greater than the following:

	Voltage	Continuous Power To:		
		16 Ohms	8 Ohms	4 Ohms
16- or 32-Ohm Connection (Direct Output)	40 Vrms	100 Watts	200 Watts	400 Watts
64-Ohm Connection (70V Output)	80 Vrms			

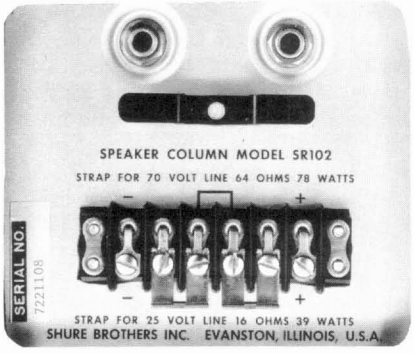

SPEAKER COLUMN MODEL SR102
STRAP FOR 70 VOLT LINE 64 OHMS 78 WATTS
SERIAL NO.
7221108
STRAP FOR 25 VOLT LINE 16 OHMS 39 WATTS
SHURE BROTHERS INC. EVANSTON, ILLINOIS, U.S.A.

FIGURE G. SR102 COLUMN REAR PANEL

70-Volt Output Strapping

For 70-volt (series) operation, remove the two straps and insert one strap between terminals 2 and 3 only. (Retain the extra strap for possible future use.) This connection provides a total Column impedance of 64 ohms and a power rating of 100 watts when operated from a constant-voltage, 70.7-volt line. Note that this strapping allows the Column to be used directly on a 70-volt line *without* a transformer. The power drawn from the 70-volt line is 78 watts. For operation from a 70-volt line at lower power levels, a transformer such as the Shure Model A102A provides power taps of 50, 25, 12.5 and 6 watts.

Column Wiring

The cables used to connect the Columns should be at least 18-gauge and rubber-jacketed. Determine the approximate distance from amplifier to Column and refer to Figures H or J to find the proper wire gauge for direct output or 70-volt output operation. Recommended cables for the sizes listed in Figures H and J are:

18 Gauge: Belden #8460, #8461, #9740, #8452
16 Gauge: Belden #8470, #8471, #8472
14 Gauge: Belden #8473
12 Gauge: Belden #8477

To avoid the frequency losses, poor coverage, dead zones, etc., resulting from improper speaker phasing, the Columns must be wired in proper polarity. The cables listed above are color-coded to ensure that identical connections are used for each amplifier-Column hookup. Note that even common 18-gauge lamp cord ("zip cord") is phased-coded with ribs along the outer jacket of one conductor.

When using the 15m (50-foot), heavy-duty cable supplied with the SR102 Column, connect the right-angle plug to a Column phone jack and twist the cable downward behind the locking bar to prevent accidental disconnection. The other phone jack and the terminal strip may be used for additional, parallel-connected Columns. When not in use, the cable may be stored in the compartment below the connector panel.

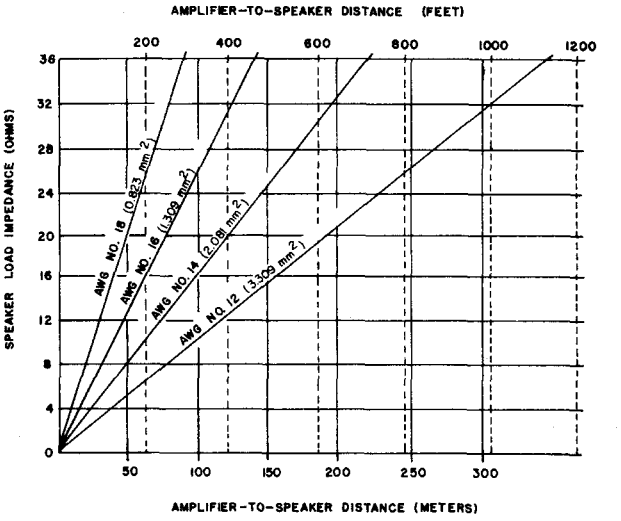


FIGURE H. RECOMMENDED WIRE GAUGE: DIRECT OUTPUT

When wiring the Columns, consideration should be given to positioning of the cables. While most local electrical codes do not require locating speaker cables in conduits or raceways, make sure that cable placement minimizes traffic interference and physical abuse to the cable.

SR102 Column Installation

The SR102 may be operated free-standing, or on an optional tilt stand (Shure A3S-T). In positioning the Columns for optimum sound coverage, care must be taken to locate the Columns on stable surfaces and away from areas where the movement of performers, audience, curtains or stage sets may cause it to topple over. Consideration must also be given to heavy air currents, whether naturally caused by wind outdoors or in an open pavilion, or generated indoors by fans or air conditioners. If the above conditions cannot be avoided, the Columns should be secured with rope, cable or strapping to maintain their physical position and prevent accidents.

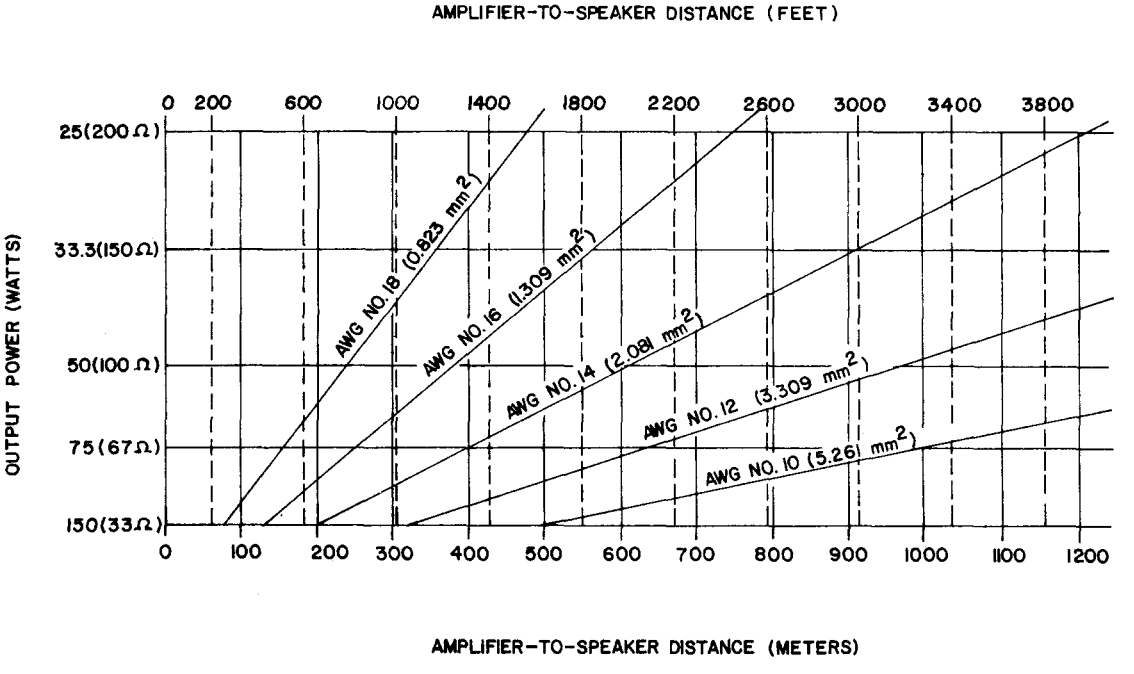


FIGURE J. RECOMMENDED WIRE GAUGE: 70-VOLT OUTPUT

If the Column is to be used at a low power on a constant-voltage, 70-volt system, a Shure A102A 70-Volt Transformer must be connected between the amplifier and Columns.

WARNING

If the A102A Transformer is to be mounted to the Column, it should be positioned at the lower rear, just above the jack panel, in order to improve Column stability.

Note that the Transformer should also be *electrically* located as close to the Column as possible; therefore the optimum mounting location just above the jack panel should be used. Mounting of the transformer adds approximately 82 mm (3¼ in.) to the total depth of the Column.

SR103 Column Installation

The SR103 Column may be operated free-standing, or suspended by means of: (1) chains or armored cable attached to the four mounting screws, one at each upper and lower side corner (see Figure B), or (2) a Shure Model A103A Wall Mount Speaker Column Bracket. In operating the SR103 Column in a free-standing mode, the same considerations should be given regarding placement and security as were stated for the SR102 Column: platform stability, minimal traffic and air current avoidance. Use physical restraints if necessary.

To suspend the Column, first loosen the 5/16-18 mounting screws at each side corner. (Note that these four screws may be replaced by four 5/16-18 x 1½" eyebolts—not supplied—if desired.) To avoid the possibility of loosening of the mounting bolts or eyebolts due to vibration, it is recommended that a commercial sealant such as LOCTITE Grade C or pipe joint compound be applied to the screw threads before tightening them. Be sure that the chain or cable used is of sufficient strength to restrain the Column; at least 135 kg (300 lb) test strength is recommended.

WARNING

It is extremely important that both the method of securing the chain or cable and the mounting surface are adequate to support the weight of the Column. Inadequate support in Column and wall/ceiling mounting hardware, mounting chain or cable, or wall or ceiling mounting surface may result in a hazardous operating condition. When mounting the Column in a plaster, or plasterboard, or other thinwall-type ceiling or wall, be sure to fasten hardware to firmly supported studs or beams. A backplate securing the hardware on the opposite side of the wall should be used if wall construction permits.

Carefully attach the ceiling chains or cables to the upper mounting screws at the desired height. Attach the remaining wall or ceiling chains or cables to the lower mounting screws, and draw them up to the wall or ceiling to form the desired angle of the Column toward the audience. Secure all chains or cables firmly, and tighten the speaker mounting screws. (For instructions on mounting the SR103 Column using the wall bracket which permits 19° of horizontal pivoting, 18° of tilt-up and 12° of tilt-down, refer to the data sheet supplied with the bracket assembly.)

Checking Sound Coverage

When the Columns, amplifier and other equipment have been installed and connected, apply a fairly constant level signal to the system (preferably program material) and walk around the audience area. Listen for a smooth, even output from the Columns, with minimal differences in volume and tone, and no distortion or "dead spots." A dead spot—for audio purposes, an audience area where no sound is heard, or where the sound level is appreciably lower than the rest of the audience area — may mean that the Columns are not covering that area, or that the Column speaker wires are connected out-of-phase. Proper phasing may be readily determined by checking the connections to the terminal strips on each Column to make sure they are the same, but inadequate coverage generally requires repositioning the Columns. The dead area should be carefully examined to determine that the problem can be corrected without resorting to auxiliary speakers.

SERVICE INSTRUCTIONS

Speaker Servicing

1. Disconnect speaker cables from phone jacks and/or terminal strip.
2. Using an ohmmeter, measure the resistance between the plus (+) and minus (—) terminal screws. The dc resistance should be 11 to 15 ohms (16 ohms nominal impedance) when strapped for 25-volt operation, and 44 to 60 ohms (64 ohms nominal impedance) when strapped for 70-volt operation.
3. The SR102 and SR103 Columns are symmetrical and contain two identical "sets" of four speakers (see Figure K). If a speaker is suspected of being faulty, the fault may be localized to one of the two sets of speakers as follows. With all strapping removed, measure the resistance between the plus (+) and 3 terminals. A normal condition in the top set of speakers is indicated by a nominal reading of 26 ohms. Measure the resistance between the negative (—) and 2 terminals. A normal indication in the bottom set of speakers is indicated by a nominal reading of 26 ohms.
4. To gain access to the individual speakers, remove the six Phillips head screws securing each trim strip to the front of the Column. The front-panel grille and foam pad assembly can now be removed, exposing the speaker configuration.
   (NOTE: When removing the assembly, be careful not to separate the grille from the foam pad.) Remove the vertical wood retainer strip spanning the 8-inch speakers.
5. When the faulty condition has been localized, remove the top or bottom *8-inch* speaker, depending

on which set of four speakers is suspect. Removal of these speakers will provide access to the wiring associated with the other speakers of that set. (NOTE: If a power screwdriver is used to remove the retainer strip screws, excessive force may loosen the teenuts and cause them to drop into the enclosure.) Remove the 8-inch speaker by removing the four locknuts and flat washers (using an 11/32" nutdriver), and gently lifting the speaker out and resting it on the baffle board.

6. Using an ohmmeter, measure the resistance of each speaker voice coil in the set. A clicking sound will be made by a "good" speaker when an ohmmeter is connected or disconnected. Note that the high-frequency speakers (LS2, LS7) cannot be properly measured without unsoldering the associated inductor (L1, L2; see Figure K) though the "click" produced by the ohmmeter can be heard without unsoldering the inductor. Each 10-inch speaker should measure between 10 and 14 ohms. Each 8-inch speaker should measure between 6 and 8 ohms. Each high-frequency speaker should measure between 13 and 15 ohms. Readings outside these limits indicate possible failures. Replace any speakers found defective.
7. If the above tests do not locate the defective unit, apply a small ac voltage from a sweep oscillator and amplifier to each speaker individually (approximately 4V, 50 to 10 kHz for 8- and 10-inch speakers; approximately 2V, 3 kHz to 15 kHz for high-frequency speakers).

WARNING

Sound pressure levels generated by this test may be damaging to your hearing. Aim speakers away from listeners and toward sound-absorbent material (curtains, blanket, etc.). Carefully adjust test signal amplitude to avoid unnecessarily high sound pressure levels for prolonged periods.

As the test signal frequency is varied, any erratic buzzes or rattles indicate possible failure.

8. Reconnect the high-frequency speaker inductors and replace and tighten the 8-inch speakers. Replace the vertical retainer strip, grille and pad assembly, and color and trim strips. Tighten all hardware to avoid rattles.

High-Frequency Speaker Diaphragm and Coil Assembly Replacement

The high-frequency speakers (LS2, LS7) may be supplied in either of two configurations. Type I employs three screws and three 8-32 x 11/32" nuts to hold the horn to the magnetic structure. Type II employs three screws and three threaded holes in the circular mounting flange of the horn to hold the horn to the magnetic structure.

Replace the diaphragm and coil assembly in the high-frequency speaker as follows:

1. Remove the high-frequency speaker from the enclosure by first removing the 10" speaker next to it.

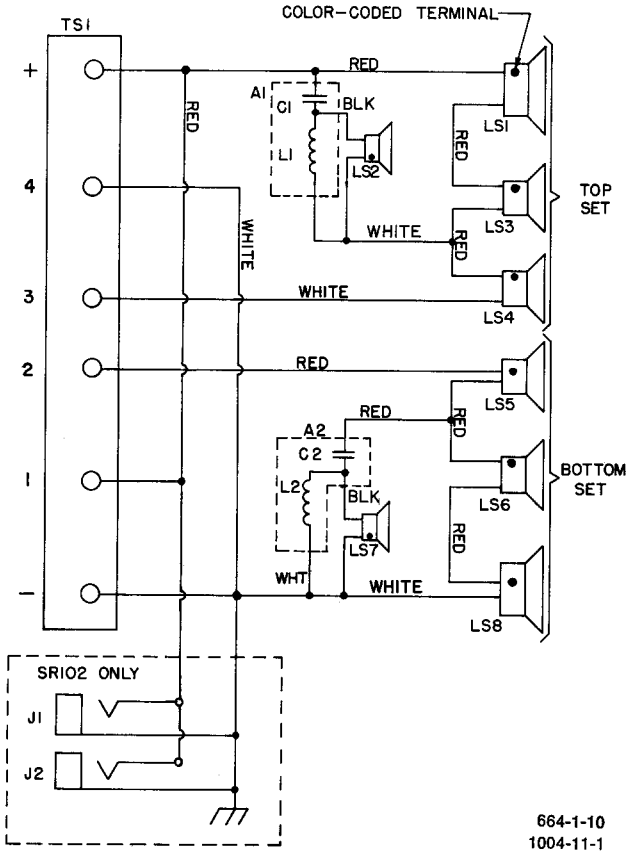


FIGURE K. CIRCUIT DIAGRAM

2. Remove the three 8-32 x 11/32" locknuts and washers securing the speaker to the baffle. Do not allow the speaker to drop into the enclosure when removed.
3. Unsolder the leads connected to the speaker terminals and remove the speaker from the enclosure.
4. Prepare a clean work area, free of drafts and metallic dust and chips. Cover the work area with clean kraft paper or newspaper.
5. Place the speaker on the work surface.
   a. Type I: Remove the three 8-32 x 11/32" nuts and screws securing the horn to the magnetic structure; remove the horn (see Figure L).
   b. Type II: Remove the three screws securing the horn to the magnetic structure; remove the horn (see Figure L).
6. Remove the diaphragm and coil assembly by lifting upward. This is a snug fit, and a gentle prying force may be required.
7. Clean the voice coil gap in the magnetic structure as follows. Insert a strip of masking tape into the voice coil gap with the adhesive side outward. Draw the tape around the gap several times to provide good wiping action. Repeat the process with a new piece of tape with the adhesive side facing *inward.*

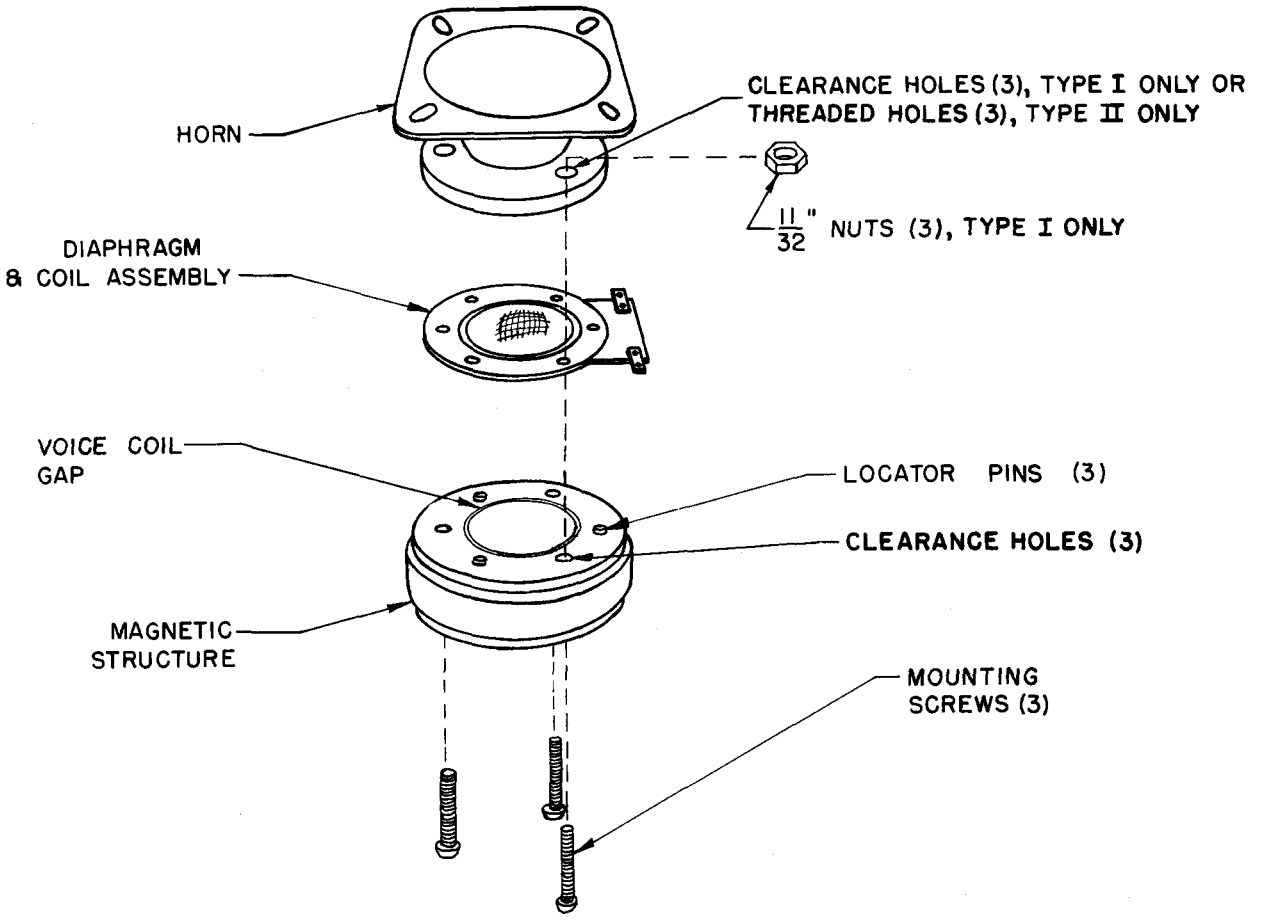


FIGURE L. DIAPHRAGM AND COIL ASSEMBLY REPLACEMENT

The assembly is a delicate part. Do not touch the voice coil and bobbin, or allow it to come in contact with the work surface, tools, etc. If the assembly is placed on the work surface, rest it on the diaphragm with the voice coil upward.

8. Assemble the new diaphragm and coil assembly to the magnetic structure with the coil facing the magnetic structure. Locate the three *small* holes in the diaphragm and coil assembly over the locator pins in the magnetic structure. The three *large* holes in the diaphragm and coil assembly will line up with the screw holes in the magnetic structure.
9. Assemble the horn to the magnetic structure.

   Magnetic attraction between horn and magnetic structure will cause the horn to "jump" to the magnetic surface; use extreme care to avoid crushing the diaphragm.

   a. Type I: Position the *large* holes in the horn over the three mounting holes in the magnetic structure, making sure that one straight edge of the horn flange is aligned with the straight edge (between solder terminals) of the diaphragm and coil assembly.

   b. Type II: Position the *threaded* holes in the horn over the screw clearance holes in the magnetic structure, making sure that one straight edge of the horn flange is aligned with the straight edge (between solder terminals) of the diaphragm and coil assembly.
10. a. Type I: Replace the three screws and 8-32 x 11/32" nuts and tighten them securely but *do not overtighten.*
    b. Type II: Replace the three screws and tighten them securely but do not overtighten.
11. Reassemble the high-frequency speaker into the speaker enclosure and reassemble the Column.

Nameplate

Should it become necessary to replace or re-fasten the front-panel nameplate, be sure to use a heavy-duty, weather-resistant adhesive. Goodyear PLIOBOND or equivalent cement is recommended.

GUARANTEE

This Shure product is guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from date of purchase. Please retain proof of purchase date. This guarantee includes *all parts and labor. This guarantee is in lieu of* any and all other guarantees or warranties, express or implied, and there shall be no recovery for any consequential or incidental damages.

SHIPPING INSTRUCTIONS

Carefully repack the unit and return it prepaid to:

Shure Brothers Incorporated
Attention: Service Department
1501 West Shure Drive
Arlington Heights, Illinois 60004

If outside the United States, return the unit to your dealer or Authorized Shure Service Center for repair. The unit will be returned to you prepaid.

REPLACEMENT PARTS LIST (see Figure M)

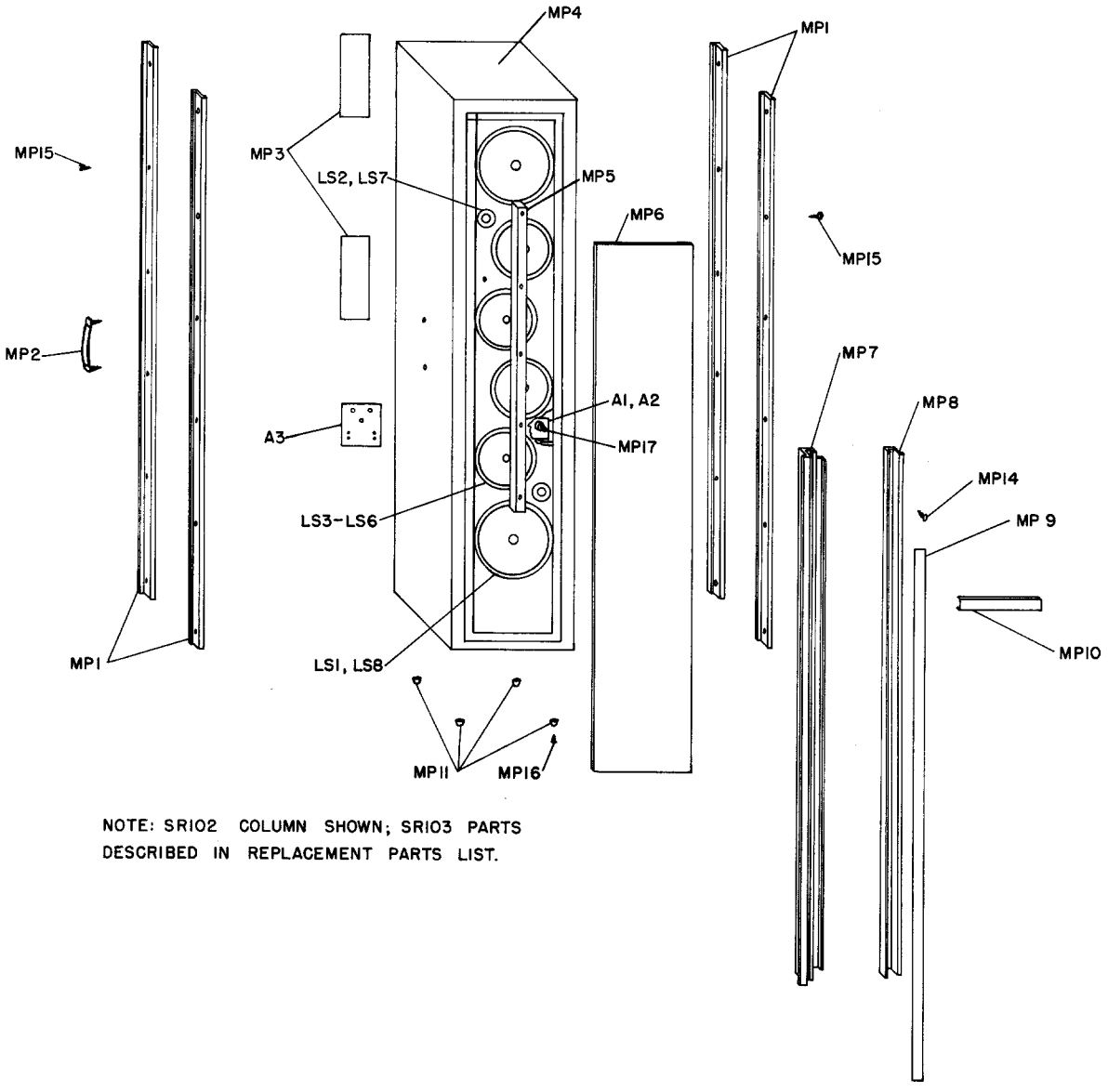
Reference Designation	Replacement Kit No.*	Replacement Kit Consists Of:		
		Qty.	Part No.	Description
A1, A2	—	—	90A2082	Crossover Network Assembly (Capacitor, Inductor, Terminal Board)
A3	—	—	90A1807	Rear Panel Assembly with connectors (SR102 only)
A3	—	—	90A1691	Rear Panel Assembly with connectors (SR103 only)
A4	RKC131	1	94A1179	High-Frequency Loudspeaker Diaphragm and Coil Assembly
C1, C2	—	—	50D71	Capacitor, Mylar, 1 μF, 10%, 250 WVdc
L1, L2	—	—	95A647	Inductor, 0.5 mH
LS1, LS8	RKC135	1	80A248	10-inch Loudspeaker
LS2, LS7	—	—	80A277	High-Frequency Loudspeaker (see A4 for replacement diaphragm and coil assembly)
LS3-LS6	RKC134	1	80A247	8-inch Loudspeaker
MP1	—	—	48A53A	Side Rail (SR102 only)
MP2	RKC150	1	90BC2600	Retractile Handle Assembly (SR102 only)
MP3	—	—	90B1374	Rear-Panel Grille and Pad Assembly
MP4	—	—	90A1697	Column Enclosure Assembly *(including* Handle, Feet, Rear-Panel Grille and Pad Assemblies, Fiber Glass, Cable Compartment Strip Assembly; *without* Speakers, Crossover Networks, Retainer Strip, Front-Panel Grille and Pad Assembly, Rails, Nameplate) (SR102 only)
MP4	—	—	90A1690	Column Enclosure Assembly *(including* Rear-Panel Grille and Pad Assemblies, Fiber Glass, Side-Panel Mounting Hardware; *without* Speakers, Crossover Networks, Retainer Strip, Front-Panel Grille and Pad Assembly, Rails, Nameplate) (SR103 only)
MP5	—	—	60A41	Vertical Retainer Strip
MP6	—	—	90A1698	Front-Panel Grille and Pad Assembly
MP7	—	—	48B35A	Left Front-Panel Rail
MP8	—	—	48B39A	Right Front-Panel Rail
MP9	—	—	53A1162	Gold Left Rail Insert
MP10	—	—	39A323	Nameplate
MP11	RKC39	4	65A1001A	Foot (SR102 only)
MP12	—	—	11C113	Fiber Glass (Sound Absorber)
MP13	—	—	95A463	Cable Compartment Strap and Socket Assembly (SR102 only)
MP14	—	—	30A882A	Phillips Flat Head Wood Screw, #6, 1⅛" (Front Rails)

* Parts listed as RKC Kits should be ordered by that kit number.
Any orders received for piece parts where RKC Kit number is shown will be shipped in RKC quantities.

REPLACEMENT PARTS LIST (see Figure M) (CONT'D)

Reference Designation	Replacement Kit No.*	Replacement Kit Consists Of:		
		Qty.	Part No.	Description
MP15	—	—	30B882A	Phillips Flat Head Wood Screw, #6, ¾" (Side Rails) (SR102 only)
MP16	—	—	30H903C	Phillips Round Head Machine Screw, #10-32, ¾" (Feet and Tilt Stand) (SR102 only)
MP17	—	—	30A1002B	Carriage Bolt, Aluminum, 2" (Crossover Network)
W1	RKC4	1	90B1373	50-Foot Cable Assembly with Male Phone Plugs (SR102 only)

* Parts listed as RKC Kits should be ordered by that kit number.
Any orders received for piece parts where RKC Kit number is shown will be shipped in RKC quantities.



NOTE: SRI02 COLUMN SHOWN; SRI03 PARTS DESCRIBED IN REPLACEMENT PARTS LIST.

FIGURE M. SPEAKER COLUMN PARTS LOCATION

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

SR102 Speaker Column

The Speaker Column shall be a portable speaker column designed for sound reinforcement applications. The Column shall utilize two 10-inch and four 8-inch cone-type speakers with a total speaker cone area of 1419 cm^2 (220 in^2), and two high-frequency horn-type speakers. Pressure sensitivity of the Column shall be an EIA rating of 53 dB at 9.2m (30 feet) from 1 milliwatt (equivalent to 101 dB at 1.2m—4 feet—with a 1-watt input).

The sound power distribution shall be nominally uniform over a 140° angle in the horizontal plane and a 65° angle in the vertical plane. The Column enclosure shall be acoustically rear-ported to provide a feedback-minimizing, horizontal polarization pattern.

The usable frequency response of the Column shall be uniform and peak-free from 100 Hz to 15,000 Hz when driven by a constant-voltage amplifier.

The continuous power rating of the Column shall be 100 watts maximum and the nominal impedance shall be 16 ohms when driven from a 40-volt source. When driven from a constant-voltage 70.7-volt line, the continuous power rating shall be 100 watts maximum and the nominal impedance shall be 64 ohms.

All eight speakers shall be mounted against the front baffle of the Column. The top four speakers (one 10-inch, two 8-inch and one high-frequency) shall be wired with a 5 kHz crossover network in a series-parallel configuration and connected to a six-terminal barrier terminal strip and two phone jacks. The bottom four speakers shall be wired in a similar manner. By appropriate strapping on the terminal strip, the two speaker networks shall be connected in parallel for a 25-volt line with a nominal impedance of 16 ohms, or in series for a 70-volt line with a nominal impedance of 64 ohms.

The speaker enclosure shall be 19 mm (¾ in.) wood construction covered with black, scuff-resistant vinyl and have edge-protecting, anodized, solid aluminum front and side rails. The enclosure shall have a retractile handle for portability and a cable storage compartment at the bottom. A plug-in 50-foot speaker cable shall be supplied. The Column shall measure 1522 mm in height (including feet), 354 mm in width, and 241 mm in depth (59-15/16 in. × 13-15/16 in. × 9½ in.) The weight, including the supplied cable, shall be 32.62 kg (72 lb).

The operating temperature range of the Column shall be —6.7°C to 43°C (20°F to 110°F). The storage temperature range shall be —29°C to 71°C (—20°F to 160°F). The Column shall meet all specifications when operated within the operating temperature limits.

Any Speaker Column not meeting all of the above specifications, or having a sealed cabinet which prevents internal inspection and servicing, shall be deemed unacceptable under this specification. The Speaker Column shall be a Shure Model SR102.

SR103 Speaker Column

The Speaker Column shall be a speaker column designed for indoor or outdoor use in sound reinforcement applications. The Column shall utilize two 10-inch and four 8-inch cone-type speakers with a total speaker cone area of 1419 cm^2 (220 in^2), and two high-frequency horn-type speakers. Pressure sensitivity of the Column shall be an EIA rating of 53 dB at 9.2m (30 feet) from 1 milliwatt (equivalent to 101 dB at 1.2m—4 feet—with a 1-watt input).

The sound power distribution shall be nominally uniform over a 140° angle in the horizontal plane and a 65° angle in the vertical plane. The Column enclosure shall be acoustically rear-ported to provide a feedback-minimizing, horizontal polarization pattern.

The usable frequency response of the Column shall be uniform and peak-free from 100 Hz to 15,000 Hz when driven by a constant-voltage amplifier.

The continuous power rating of the Column shall be 100 watts maximum and the nominal impedance shall be 16 ohms when driven from a 40-volt source. When driven from a constant-voltage 70.7-volt line, the continuous power rating shall be 100 watts maximum and the nominal impedance shall be 64 ohms.

All eight speakers shall be mounted against the front baffle of the Column. The top four speakers (one 10-inch, two 8-inch and one high-frequency) shall be wired with a 5 kHz crossover network in a series-parallel configuration and connected to a six-terminal barrier terminal strip. The bottom four speakers shall be wired in a similar manner. By appropriate strapping of the terminal strip, the two speaker networks shall be connected in parallel for a 25-volt line with a nominal impedance of 16 ohms, or in series for a 70-volt line with a nominal impedance of 64 ohms.

The speaker enclosure shall be 19 mm (¾ in.) wood construction covered with black, scuff-resistant vinyl and have anodized, solid aluminum front rails. All surfaces (internal and external) and all components shall be treated for weather resistance. The Column shall measure 1513 mm in height, 352 mm in width, and 240 mm in depth (59-9/16 in. × 13⅞ in. × 9-7/16 in.). The weight shall be 31.8 kg (70 lb).

The operating temperature range of the Column shall be —6.7°C to 43°C (20°F to 110°F). The storage temperature range shall be —29°C to 71°C (—20°F to 160°F). The Column shall meet all specifications when operating within the operating temperature limits.

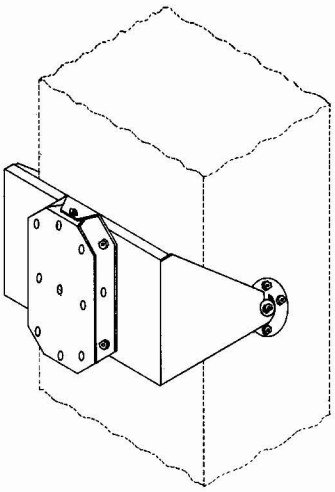
Any Speaker Column not meeting all of the above specifications, or having a sealed cabinet which prevents internal inspection and servicing, shall be deemed unacceptable under this specification. The Speaker Column shall be a Shure Model SR103.

MODEL SR102 AND SR103
SPEAKER COLUMNS

ACCESSORIES

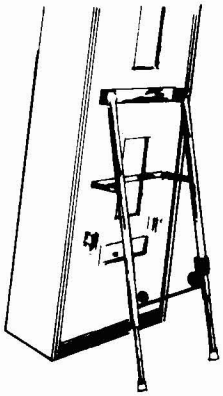
MODEL A102A
70-VOLT TRANSFORMER

A high-efficiency, low-loss autotransformer that mounts easily on the back of any speaker or convenient surface to provide wattage taps of 50, 25, 12 and 6 watts in 70-volt distributed systems, and impedance taps of 8 and 16 ohms to accommodate a wide variety of speakers. Five-screw 70-volt terminal strip and three-screw impedance terminal strip.



MODEL A103A
WALL MOUNT SPEAKER
COLUMN BRACKET

A strong wall bracket designed to permanently mount the SR103 Speaker Column on almost any vertical surface. Allows the installer to aim the speaker column for optimum audience coverage. Tilts as much as 19° left or right, and 18° up-tilt or 12° down-tilt. Locks in selected position.



MODEL A3S-T
SPEAKER TILT STAND

A tubular steel stand that provides added stability for SR102 Speaker Columns. Permits an upward tilt of up to 30°.

MODEL A50XC
EXTENSION CABLE

A 15m (50-foot), 18-gauge, rubber-jacketed connecting cable with attached male and female phone plugs.